What Is Claimed Is:

1. A measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50), in particular a measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) for a motor vehicle (1), for measuring a distance between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and at least one object (20) and/or for measuring a speed difference (v) between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20), the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) having an emitting device (35, 55) for sending a transmission signal (s(t), sl(t)), which includes at least two signal portion sequences (A(t), B(t), C(t), D(t)), a first signal portion sequence (A(t)) and a second signal portion sequence (B(t)), having each at least two temporally alternating signal portions (A1, A2, A3, B1, B2, B3), and at least two signal portions (A1, A2, A3, B1, B2, B3) of a signal portion sequence (A(t), B(t), C(t), D(t)) differing in their frequency in each case by one differential frequency $f_{Hub,A}/(N-1)$, $f_{Hub,B}/(N-1)$, wherein the differential frequency ($f_{Hub,A}/(N-1)$) of the first signal portion sequence (A(t)) differs from the differential frequency ($f_{Hub,B}/(N-1)$) of the second signal portion sequence (B(t)).

2. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 1, wherein it has a receiving device (36, 56) for receiving a reflection signal (r(t), rl(t)) of the transmission signal (s(t), sl(t)) reflected by the at least one object (20).

3. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 2, wherein it has a mixer (38, 39, 58, 59) for mixing the first signal portion sequence

($A(t)$) with a portion of the first signal portion sequence ($A(t)$) of the reflection signal ($r(t)$, $rl(t)$) reflected by the at least one object (20) to form a first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$).

4. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 3, wherein it has an evaluation device (41, 61) for ascertaining the measured frequency or the frequencies (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$).

5. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 4, wherein the evaluation device (41, 61) allows for the distance between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20) to be determined as a function of the measured frequency or the frequencies (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$).

6. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 4 or 5, wherein the evaluation device (41, 61) allows for the speed difference (v) between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20) to be determined as a function of the measured frequency or the frequencies (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$).

7. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in one of Claims 3 to 6, wherein the mixer (38, 39, 58, 59) allows for the second signal portion sequence ($B(t)$) to be mixed with a portion of the second signal portion sequence ($B(t)$) of the reflection signal ($r(t)$, $rl(t)$) reflected by the at least one object (20) to form a second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

8. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 7, wherein the evaluation device (41, 61) allows for the measured frequency or the frequencies (κ_B) of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$) to be ascertained.

9. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 8, wherein the evaluation device (41, 61) allows for the distance between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20) to be determined as a function of the measured frequency or the frequencies (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and of the dominating frequency (κ_B) of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

10. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 8 or 9, wherein the evaluation device (41, 61) allows for the speed difference (v) between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20) to be determined as a function of the measured frequency or the frequencies (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and of the measured frequency or the frequencies (κ_B) of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

11. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in one of Claims 7 to 10, wherein the evaluation device (41, 61) allows for the difference ($\Delta\psi$) between the phase of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and the phase of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$) to be determined.

12. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 11, wherein the evaluation device (41, 61) allows for the distance between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20) to be determined as a function of the difference ($\Delta\psi$) between the phase of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and the phase of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

13. The measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) as recited in Claim 11 or 12, wherein the evaluation device (41, 61) allows for the speed difference (v) between the measuring device (10, 11, 12, 13, 14, 15, 16, 30, 50) and the at least one object (20) to be determined as a function of the difference ($\Delta\psi$) between the phase of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and the phase of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

14. A method for measuring a distance between an emitting device (35, 55) and at least one object (20) and/or for measuring a speed difference (v) between the emitting device (35, 55) and the at least one object (20), the emitting device (35, 55) being used to send a transmission signal (s(t), sl(t)) having at least two signal portion sequences (A(t), B(t), C(t), D(t)), a first signal portion sequence (A(t)) and a second signal portion sequence (B(t)), having each at least two temporally alternating signal portions (A1, A2, A3, B1, B2, B3), and at least two signal portions (A1, A2, A3, B1, B2, B3) of a signal portion sequence (A(t), B(t), C(t), D(t)) differing in their frequency by in each case one differential frequency ($f_{Hub,A}/(N-1)$, $f_{Hub,B}/(N-1)$), wherein the differential frequency ($f_{Hub,A}/(N-1)$) of the first signal portion sequence (A(t)) differs from the

differential frequency ($f_{Hub,B}$/(N-1)) of the second signal portion sequence (B(t)).

15. The method as recited in Claim 14, wherein a reflection signal (r(t), rl(t)) of the transmission signal (s(t), sl(t)) reflected by the at least one object (20) is received.

16. The method as recited in Claim 15, wherein the first signal portion sequence (A(t)) is mixed with a portion of the first signal portion sequence (A(t)) of the reflection signal (r(t), rl(t)) reflected by the at least one object (20) to form a first mixed signal (I_A(t), Q_A(t), m_A(t)).

17. The method as recited in Claim 16, wherein the dominating frequency (κ_A) of the first mixed signal (I_A(t), Q_A(t), m_A(t)) is ascertained.

18. The method as recited in Claim 17, wherein the distance between the emitting device (35, 55) and the at least one object (20) is determined as a function of the dominating frequency (κ_A) of the first mixed signal (I_A(t), Q_A(t), m_A(t)).

19. The method as recited in Claim 17 or 18, wherein the speed difference (v) between the emitting device (35, 55) and the at least one object (20) is determined as a function of the dominating frequency (κ_A) of the first mixed signal (I_A(t), Q_A(t), m_A(t)).

20. The method as recited in one of Claims 15 through 19, wherein the second signal portion sequence (B(t)) is mixed with a portion of the second signal portion

sequence ($B(t)$) of the reflection signal ($r(t)$, $rl(t)$) reflected by the at least one object (20) to form a second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$), and the dominating frequency (κ_A) of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$) is ascertained.

21. The method as recited in Claim 20, wherein the distance between the emitting device (35, 55) and the at least one object (20) is determined as a function of the dominating frequency (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

22. The method as recited in Claim 20 or 21, wherein the speed difference (v) between the emitting device (35, 55) and the at least one object (20) is determined as a function of the dominating frequency (κ_A) of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and of the dominating frequency (κ_B) of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

23. The method as recited in Claim 20, 21, or 22, wherein the difference ($\Delta\psi$) between the phase of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and the phase of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$) is determined.

24. The method as recited in Claim 23, wherein the distance between the emitting device (35, 55) and the at least one object (20) is determined as a function of the difference ($\Delta\psi$) between the phase of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and the phase of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).

25. The method as recited in Claim 23 or 24, wherein the speed difference (v) between the emitting device (35, 55) and the at least one object (20) is determined as a function of the difference ($\Delta\psi$) between the phase of the first mixed signal ($I_A(t)$, $Q_A(t)$, $m_A(t)$) and the phase of the second mixed signal ($I_B(t)$, $Q_B(t)$, $m_B(t)$).